

100

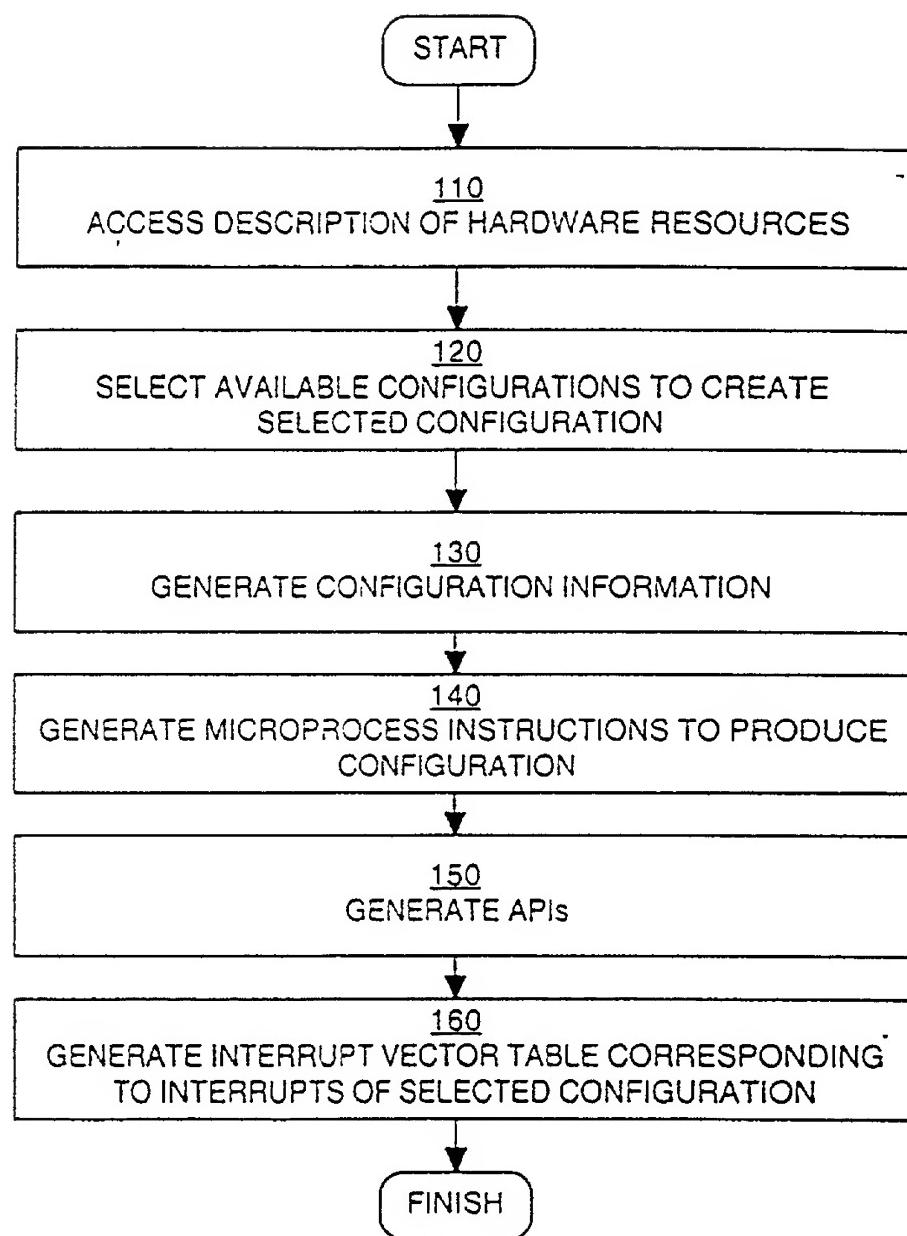


Figure 1

600

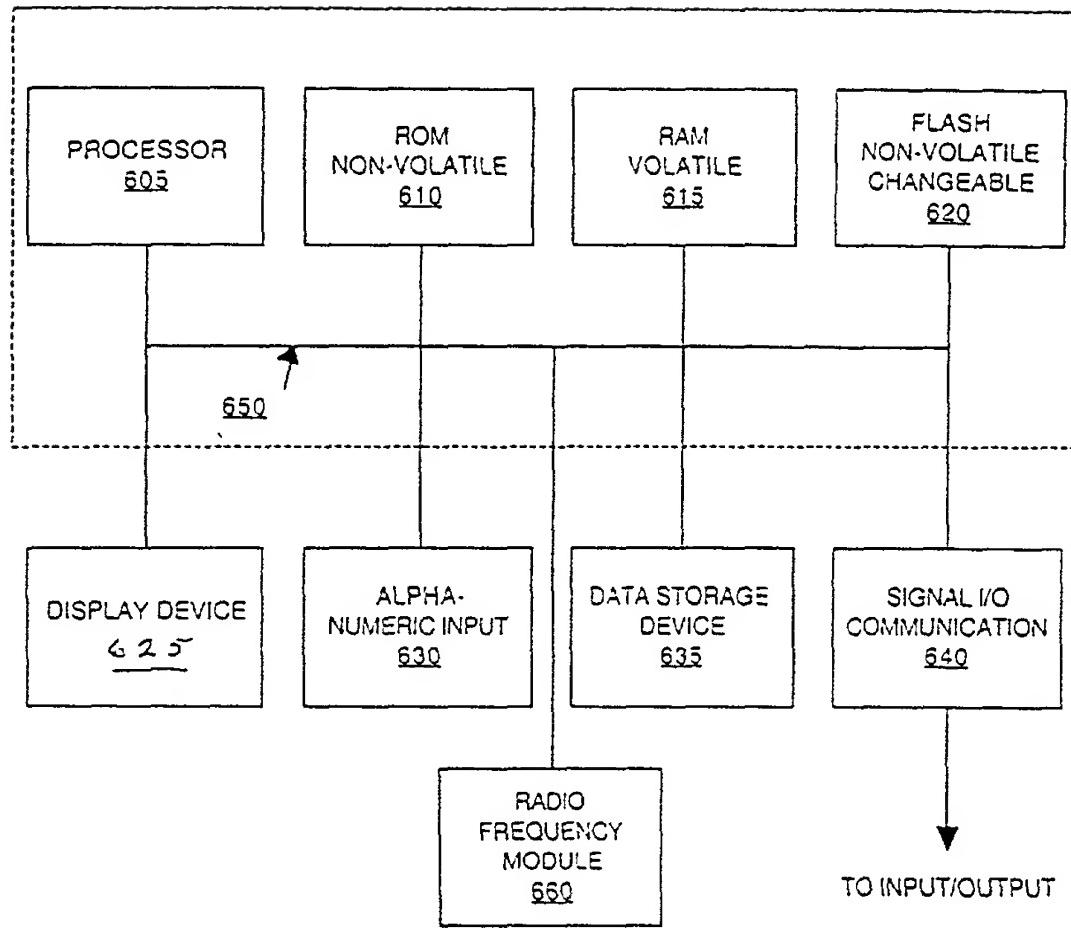
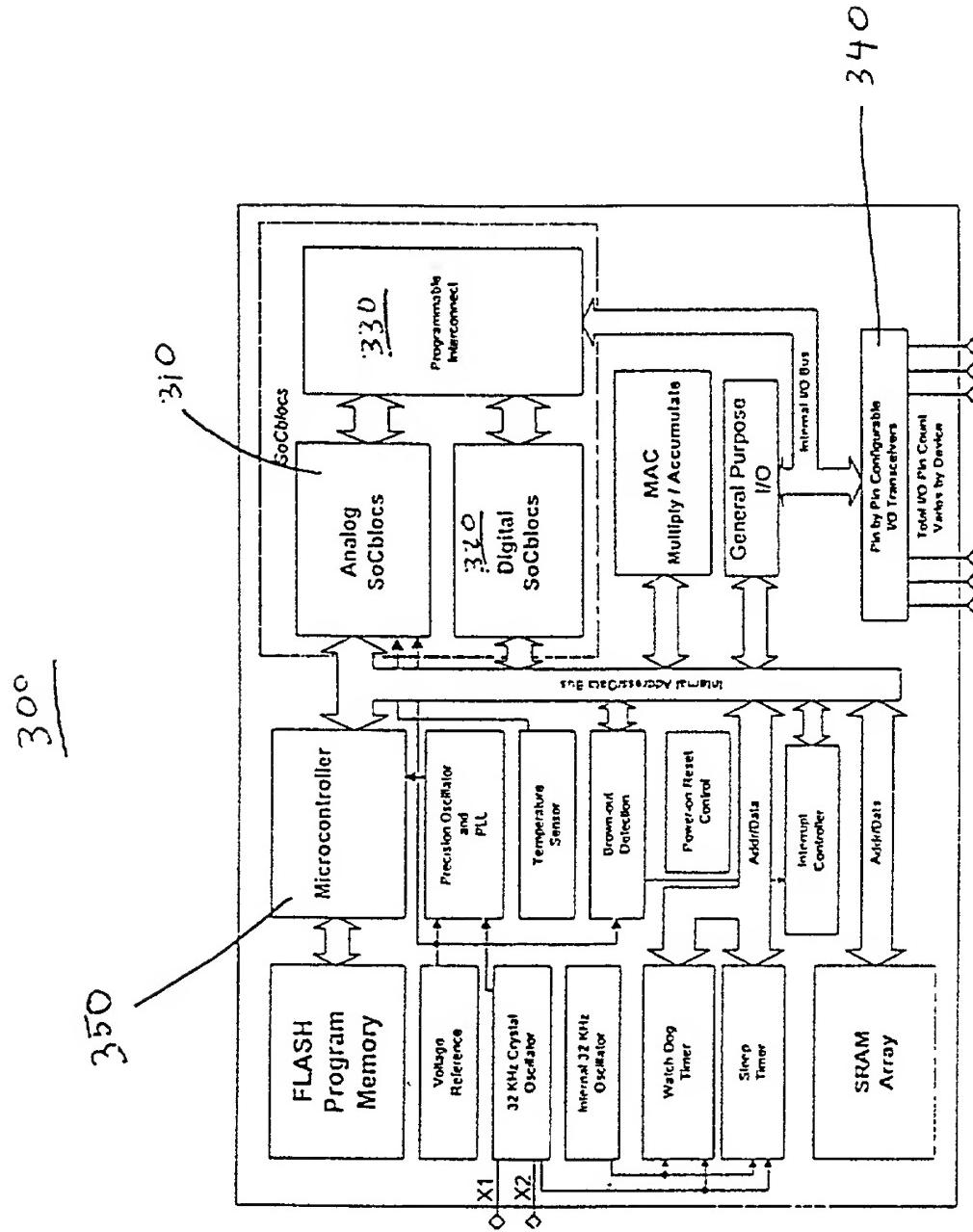


Figure 2

Figure 3



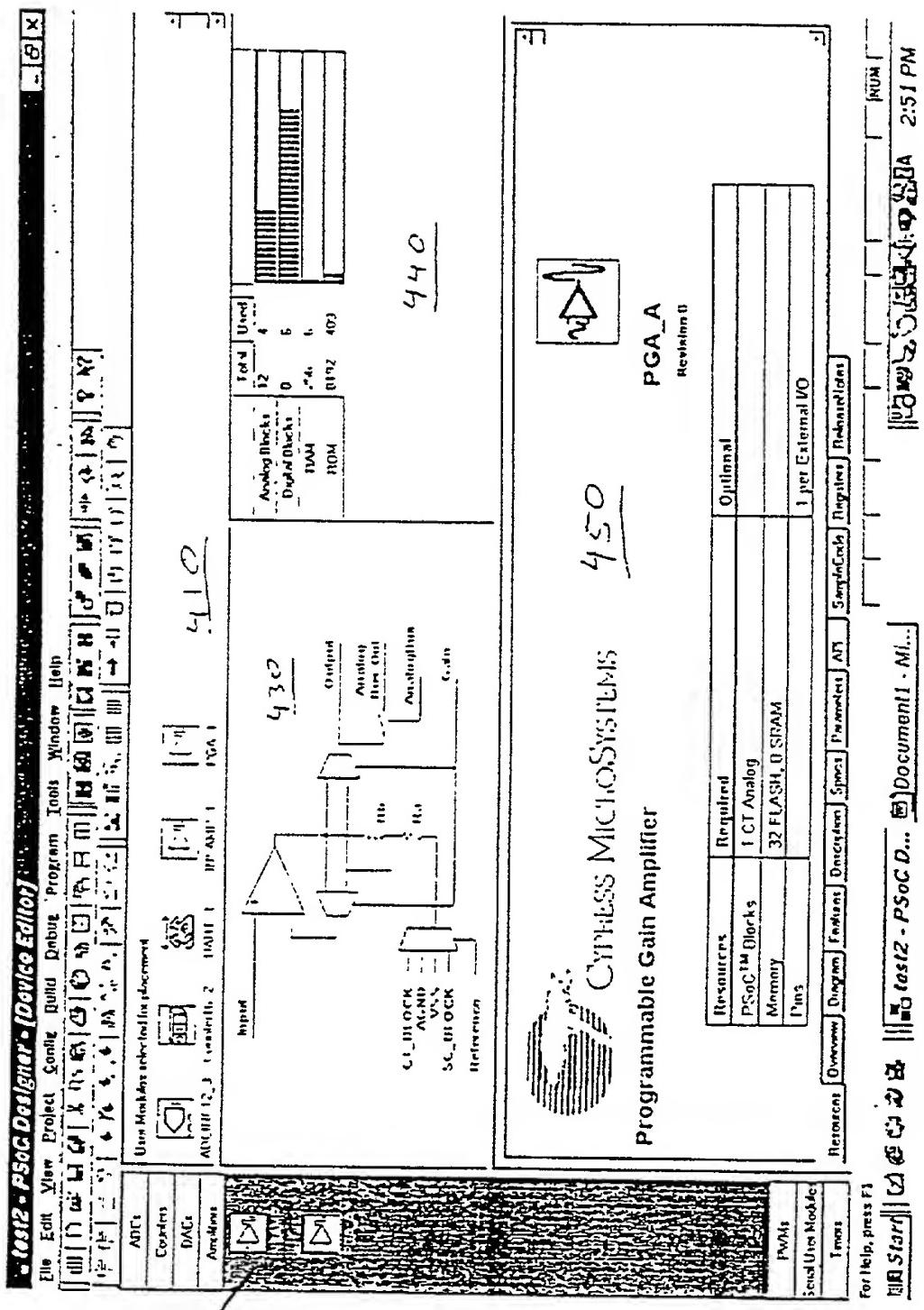


Figure 4

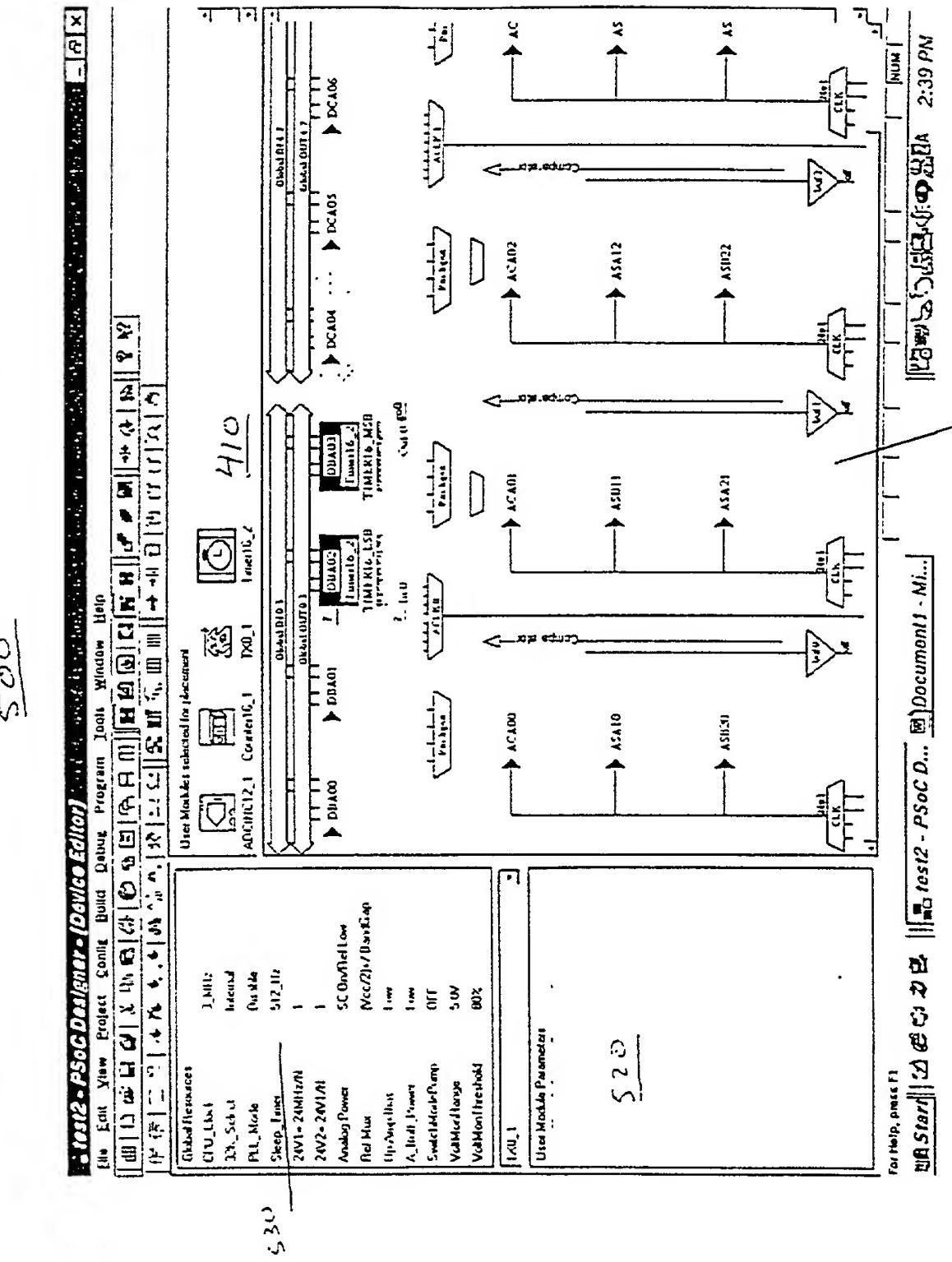
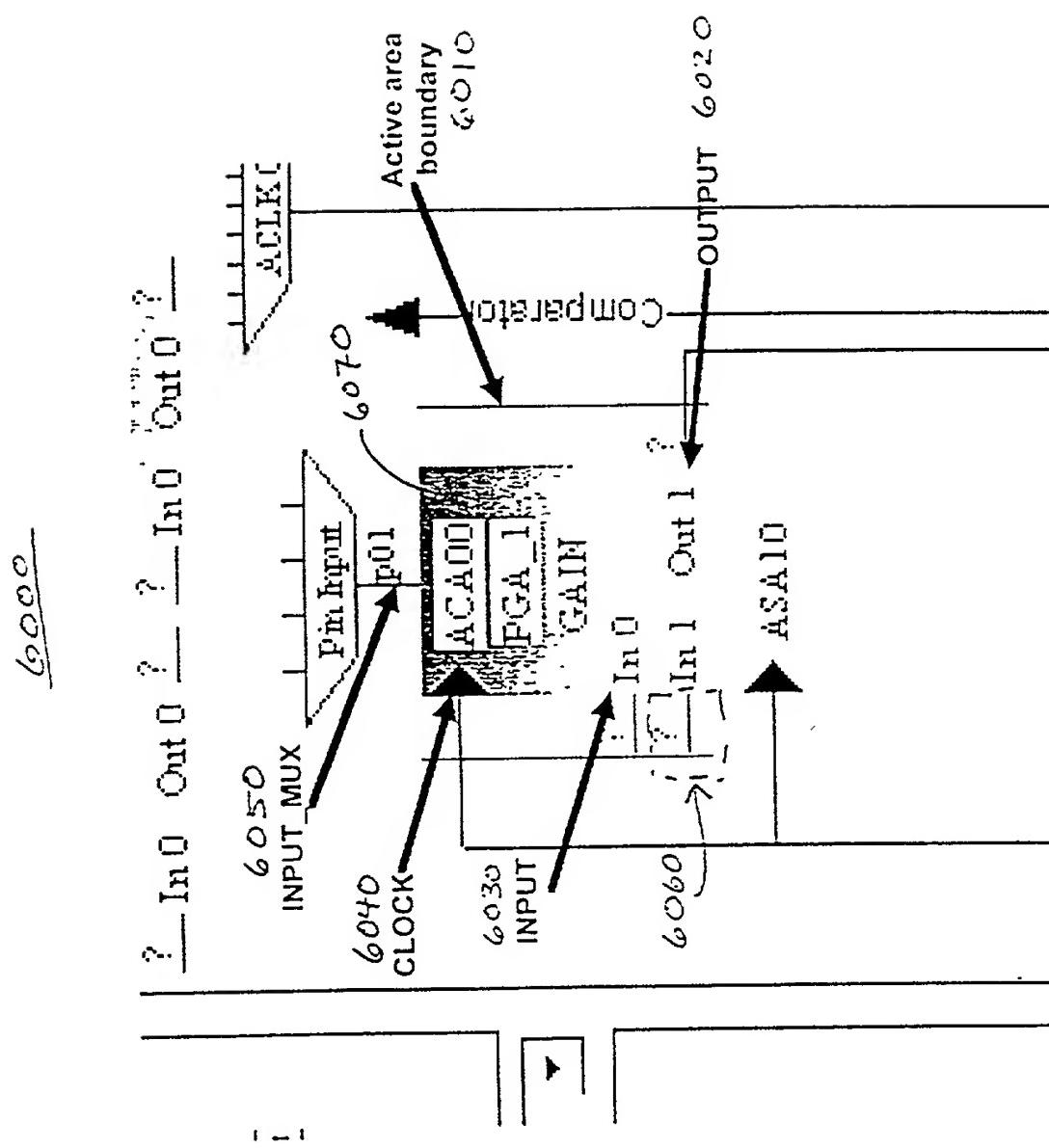


Figure 6



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7 doc

```
<!--Project DB Ver 0.03 08/10/00-->
<psoc_device_db>
  <user_module_list>
    <!-- Variable Resolution Incremental ADC -->
    <!-- Variable Resolution Incremental ADC -->
    <user_module_name="ADC1X1" type="ADC" ifml="ADC1X1.ifml" icon="ADC.ico" metafile="ADC1X1.metafile" />
    <user_module_name="ADC1X1" type="ADC" ifml="ADC1X1.ifml" icon="ADC.ico" metafile="ADC1X1.metafile" />
    <!-- API PATH TYPE="CUSTOM" -->
    <!-- SHAPE SHAPE_TYPE="BLOCKLIST" -->
    <!-- BLOCK_LIST -->
    <!-- ADC -->
    <!-- ANALOG_SC -->
    <!-- REGISTER_LIST -->
    <!-- REGISTER_NAME="CRO" -->
    <!-- BITFIELD_LIST -->
    <!-- BITFIELD_NAME="OSZ" VAL1_0F="OSZ_32" />
    <!-- BITFIELD_NAME="CLOCK_PULSE" VAL1_0F="PULSE_NORM" />
    <!-- BITFIELD_NAME="SIGN" VAL1_0F="POS" />
    <!-- BITFIELD_NAME="CAP_SIZE" VAL1_0F="16" />
    </BITFIELD_LIST>
    <!-- REGISTER -->
    <!-- REGISTER_NAME="CR1" -->
    <!-- BITFIELD_LIST -->
    <!-- BITFIELD_NAME="CAP_SIZE" VAL1_0F="0" />
    </BITFIELD_LIST>
    <!-- REGISTER -->
    <!-- REGISTER_NAME="CR2" -->
    <!-- BITFIELD_LIST -->
    <!-- BITFIELD_NAME="A_OUT" VAL1_0F="DISABLED" />
    <!-- BITFIELD_NAME="COMP_OUT" VAL1_0F="ENABLED" />
    <!-- BITFIELD_NAME="AZ_PULSE" VAL1_0F="AZ_PUL" />
```

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<BITFIELD NAME="CAP_SIZE" VALUE="0"/>
</BITFIELD_LIST>
</REGISTER>
<REGISTER NAME="CR3">
<BITFIELD_LIST>
<BITFIELD NAME="REF_SELECT" VALUE="COM1"/>
<BITFIELD NAME="FB_CAP_SELECT" VALUE="P112_AZ_ENABLE"/>
<BITFIELD NAME="FB_CAP_GND" VALUE="P111_GND_P111"/>
<BITFIELD NAME="SCA_INPUT_MUX_B" VALUE="IN2B"/>
<BITFIELD NAME="SCB_INPUT_MUX_B" VALUE="IN2B"/>
<BITFIELD NAME="SBB" VALUE="DISABLE"/>
<BITFIELD NAME="PWR_SELECT" VALUE="PWR_OFF"/>
</BITFIELD_LIST>
</REGISTER>
<REGISTER_LIST>
</BLOCK_LIST>
</BLOCK_LIST>
<BLOCK_LIST>
<REGISTER_LIST>
<REGISTER NAME="DIGI_BasicFunction">
<BITFIELD_LIST>
<BITFIELD NAME="End" VALUE="1Kind"/>
<BITFIELD NAME="CompareType" VALUE="L_TouttQ"/>
<BITFIELD NAME="InterruptType" VALUE="TerminalCount"/>
<BITFIELD NAME="Function" VALUE="Timer"/>
</BITFIELD_LIST>
</REGISTER>
<REGISTER NAME="DIGI_Input">
<BITFIELD_LIST>
<BITFIELD NAME="DataSelect" VALUE="High"/>
</BITFIELD_LIST>
</REGISTER>

```

Figure 2

```

<REGISTER NAME="DIG_Output">
  <BITFIELD_LIST>
    <BITFIELD NAME="AUXOutputEnable" VALUE="DISABLE"/>
    <BITFIELD NAME="DigOutputEnable" VALUE="DISABLE"/>
  </BITFIELD_LIST>
</REGISTER>
</REGISTER_LIST>
<INPUT_LIST/>
<BLOCK_LIST>
<BLOCK_LIST>
  <BLOCK NAME="CNT_LSB" TYPE="DIGITAL">
    <REGISTER_LIST>
      <REGISTER NAME="DIG_BasicFunction">
        <BITFIELD_LIST>
          <BITFIELD NAME="Function" VALUE="Counter"/>
          <BITFIELD NAME="CompareType" VALUE="LToHiQ"/>
        </BITFIELD_LIST>
      <REGISTER>
        <REGISTER_LIST>
          <INPUT_LIST>
            <INPUT SOURCE="AnalogOut" TYPE="RESERVED_RESOURCE" REGISTER_NAME="DIG_Input"
                  BITFIELD="DataSelect"/>
          </INPUT_LIST>
        </REGISTER_LIST>
      <BITFIELD NAME="CNT_MSB" TYPE="DIGITAL_INTERRUPT_SOURCE" CNT_INT="INTERRUPT_INPUT">
        <REGISTER_LIST>
          <REGISTER NAME="DIG_BasicFunction">
            <BITFIELD_LIST>
              <BITFIELD NAME="Function" VALUE="Counter"/>
              <BITFIELD NAME="Find" VALUE="IsFind"/>
              <BITFIELD NAME="CompareType" VALUE="LToEQ"/>
            </BITFIELD_LIST>
          <REGISTER>

```

Figure 7c

```

</REGISTER_LIST>
<INPUT_LIST>
  <INPUT SOURCE="CNT_LSB" TYPE="BLOCK" REGISTER_NAME="DIG_Input" BITFIELD="DataSelect"/>
</INPUT_LIST>
<BLOCK>
</BLOCK_LIST>
<RESOURCE_LIST>
  <RESOURCE NAME="AnalogOut" TYPE="ANALOG_COMPARATOR_OUTPUT">
    <INPUT SOURCE="ADC" TYPE="BLOCK" />
</INPUT_LIST>
<RESOURCE_LIST>
</RESOURCE>
<SHAPE>
  <PARAMETER_LIST>
    <PARAMETER NAME="ADCINPUT_SCB" TYPE="INPUT" SOURCE="ADC" REGISTER_NAME="CRT1">
      <BITFIELD>"SCB INPUT_MUX_A"</BITFIELD>
      <PARAMETER NAME="ADCINPUT_SCA" TYPE="INPUT" SOURCE="ADC" REGISTER_NAME="CRT1">
        <BITFIELD>"SCA INPUT_MUX_A_C"</BITFIELD>
        <PARAMETER NAME="ClockPhase" TYPE="BLOCK" SOURCE="ADC" REGISTER_NAME="CRO" />
        <BITFIELD>"CLOCK_PHASE"</BITFIELD>
        <PARAMETER NAME="TMRCLK" TYPE="CLOCK" SOURCE="TMR" REGISTER_NAME="DIG_Input" />
        <BITFIELD>"ClockSelect"</BITFIELD>
        <PARAMETER NAME="CIRCLKI" TYPE="CLOCK" SOURCE="CNT_LSB" REGISTER_NAME="DIG_Input" />
        <BITFIELD>"ClockSelect"</BITFIELD>
        <PARAMETER NAME="CTRCLKM" TYPE="CLOCK" SOURCE="CNT_MSB" REGISTER_NAME="DIG_Input" />
        <BITFIELD>"ClockSelect"</BITFIELD>
    </PARAMETER_LIST>
    <API_REGISTER_ALIAS_LIST>
      <API_REGISTER_ALIAS NAME="AloD0" SOURCE="ADC" REGISTER_NAME="CR0"/>
      <API_REGISTER_ALIAS NAME="AloD1" SOURCE="ADC" REGISTER_NAME="CR1"/>
      <API_REGISTER_ALIAS NAME="AloD2" SOURCE="ADC" REGISTER_NAME="CR2"/>
      <API_REGISTER_ALIAS NAME="AloD3" SOURCE="ADC" REGISTER_NAME="CR3"/>
      <API_REGISTER_ALIAS NAME="CounterMSB" SOURCE="CNT_MSB" REGISTER_NAME="DIG_BasicFunction"/>
    </API_REGISTER_ALIAS_LIST>
  </RESOURCE>
</SHAPE>

```

DIG_Ore 7 D

FIGURE 7 E

```
<API_Register AliasName="CounterMSB0" Source="CNT_MSB" Register_Name="DIG_Input"/>
<API_Register AliasName="CounterMSB0" Register_Name="DIG_Output"/>
<API_Register AliasName="CounterMSBDR0" Source="CNT_MSB" Register_Name="DATA_0"/>
<API_Register AliasName="CounterMSBDR1" Source="CNT_MSB" Register_Name="DATA_1"/>
<API_Register AliasName="CounterMSBDR2" Source="CNT_MSB" Register_Name="DATA_2"/>
<API_Register AliasName="CounterMSBDR2" Source="CNT_MSB" Register_Name="DATA_3"/>
<API_Register AliasName="CounterMSBCR0" Source="CNT_MSB" Register_Name="CONTROL_0"/>
<API_Register AliasName="CounterMSBCR1" Source="CNT_MSB" Register_Name="CONTROL_1"/>
<API_Register AliasName="CounterLSIFN" Source="CNT_LSB" Register_Name="DIG_BasicFunction"/>
<API_Register AliasName="CounterLSIFL" Source="CNT_LSB" Register_Name="DIG_Input"/>
<API_Register AliasName="CounterLSBL" Source="CNT_LSB" Register_Name="DIG_Output"/>
<API_Register AliasName="CounterSBD0" Source="CNT_LSB" Register_Name="DIG_Output"/>
<API_Register AliasName="CounterSBD0" Source="CNT_LSB" Register_Name="DATA_0"/>
<API_Register AliasName="CounterSBD1" Source="CNT_LSB" Register_Name="DATA_1"/>
<API_Register AliasName="CounterSBD2" Source="CNT_LSB" Register_Name="DATA_2"/>
<API_Register AliasName="CounterSBD2" Source="CNT_LSB" Register_Name="DATA_3"/>
<API_Register AliasName="CounterSBCR0" Source="CNT_LSB" Register_Name="CONTROL_0"/>
<API_Register AliasName="CounterSBCR1" Source="CNT_LSB" Register_Name="DIG_BasicFunction"/>
<API_Register AliasName="Timer0" Source="TMR" Register_Name="DIG_Input"/>
<API_Register AliasName="Timer0" Register_Name="DIG_Output"/>
<API_Register AliasName="TimerDR0" Source="TMR" Register_Name="DATA_0"/>
<API_Register AliasName="TimerDR1" Source="TMR" Register_Name="DATA_1"/>
<API_Register AliasName="TimerDR2" Source="TMR" Register_Name="DATA_2"/>
<API_Register AliasName="TimerDR2" Source="TMR" Register_Name="DATA_3"/>
<API_Register AliasName="TimerCRO" Source="TMR" Register_Name="CONTROL_0"/>
<API_Register AliasName="Comp_Ctr" Source="AnalogComp" Type="REGISTER_RESOURCE">
    REGISTER_NAME="AnalogComparatorControl"/>
</API_Register AliasList>
</USER_MODULE>
</USER_DEVICE_DDB>
</USER_MODULE_LIST>
```